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ORIGINAL ARTICLES

A LOBAR FORM OF BRONCHOPNEUMONIA OF LONG DURATION, OCCURRING IN CHILDREN AND YOUNG ADULTS.[1]

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For some time, possibly four or five years, I have been interested in a disease of the lungs which cannot be readily classified nor easily named.

Case I.—The first case I saw was in a young girl, who came to the dispensary of the Polyclinic Hospital and puzzled my colleagues and myself by a long-continued, low fever. Week after week on on her visits to the clinic we noted a moderate elevation of temperature, and as she had a cough, was pale and of poor physique, tuberculosis was naturally suspected. But aside from failure to find any evidence in the sputum, the physical signs—an abundance of crackling rales—were strictly limited to one lower lobe, there being no involvement of the apices. The history did not suggest an unresolving lobar pneumonia, and the child, so far as I can recall—the record is now lost—was not confined to bed at any time. After a most protracted course, covering possibly two or three months, the girl recovered completely.

Case II.—On September 12, 1911, I saw in my office Pearl L., a girl, aged thirteen years, who had been coughing for two weeks. At the age of two years she had whooping cough, otherwise she had been well. Although she did not appear to be very ill, I found impairment of resonance over the entire left lower lobe and sharply limited to it. The breath sounds were harsh and of a bronchovesicular character. There were also numerous crackling rales. The right side as well as the upper lobe of the left lung was entirely normal. Temperature, 99.5°; pulse, 120. Four days later the signs were more marked, the involvement extending from the base of the left lobe to a little above the middle of the left scapula, and from the spinal column to the postaxillary line. The impairment was, however, very slight, and only discoverable by careful comparison of the two sides. The rales were of a coarse, moist type; temperature, 98.9°; pulse, 108. On her next two visits very few rales could be detected. On October 27, six weeks after I first saw her and eight weeks after the beginning of her illness, rather coarse rales confined entirely to the left lower lobe could still be heard. On November 22, no rales could be found, but as late as January 4, 1912, four months or more after the onset of the disease, the breath sounds over the left base were still a little harsh. I saw the girl again February 17, 1912, for some trifling condition, and at that time the lungs were clear.

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[1] Read at the meeting of the Association of American Physicians, May 8, 1913. A preliminary report was made to the College of Physicians of Philadelphia on February 5, 1913.

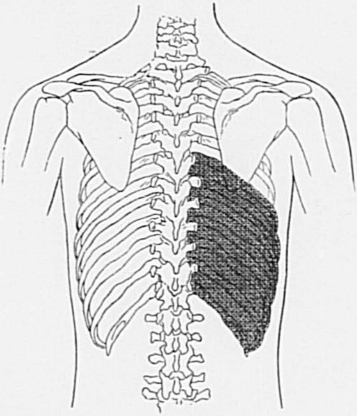

FIG. 1.—Bertha M. Impairment of resonance; bronchovesicular breathing; crackling rales; right lower lobe.

CASE III.—Bertha M., aged nineteen years, a Normal School girl, came to see me March 31, 1911, on account of a severe cough from which she had suffered on and off for three months. She is very robust and comes of healthy stock. The cough had "somewhat run her down," to use her own words. Temperature, 100.5°; pulse, 120. On examination I found impairment of resonance over the right chest from the angle of the scapula to the base. Over this area the vocal fremitus was a little increased. On auscultation over the entire lower right lobe posteriorly, laterally, and in front from the mammary region down, numerous crackling rales could be heard. The lung elsewhere was normal. (Fig. 1.) The patient had no expectoration, the appetite was diminished, the bowels constipated. By April 8, only a few dry rales remained at the base of the right chest.

CASE IV.—Bernice B., aged six years, had whooping cough soon after birth, a mastoid operation and adenectomy at three, otherwise nothing except slight anemia and transient choreiform movements. I saw her first on May 28, 1912. She had been coughing for some time. On June 6, I noted in my records: Cough very hard; temperature, 99.4°; harsh breathing at left base. On June 10: Cough continues; temperature, 99.4°; slight impairment of the percussion note of the left lower lobe posteriorly and in the axillary region, with harsh breathing and a fair number of fine rales. On June 17 the notes state: Temperature normal; cough less severe; rales have nearly all disappeared.

CASE V.—Dora Y., aged thirteen years, was seen with Dr. Hofkin on June 27, 1912, the history being that she had been ill with a continued fever for some time; just how long I could not ascertain. Typhoid fever and tuberculosis had been suspected. There was no cough; no expectoration; the fever was moderate; at no time had the child seemed very ill. A few weeks before she was taken sick an uncle had died in the same house of lobar pneumonia. Examination of the patient, who was up and about, showed slight impairment of resonance over the entire lower right lobe posteriorly and in the axillary region. The vocal fremitus was not altered. On auscultation a tremendous shower of crackling rales, which became a little finer after coughing, could be heard. Inspiration was harsh and expiration somewhat prolonged, but not bronchial. I ventured the positive statement that the child did not have tuberculosis and would recover fully. In September Dr. Hofkin wrote to me that the girl had been taken to Atlantic City and that he had found the lungs clear five weeks after our consultation, but had noted the persistence of harsh breathing over the formerly affected lobe. When he reëxamined her in September not the slightest abnormality could be detected.

CASE VI.—Sarah R., a girl aged twelve years, was first seen October 20, 1912. For three or four weeks she had had a severe cough, with some expectoration. According to the mother the child had been subject to such attacks for several winters, and when once started they would last throughout the cold season. The cough was worse at night and often disturbed the child's sleep. There were no night-sweats. The family history was good, and as for the patient, aside from the winter cough, she had had nothing except chickenpox at the age of two years. Examination showed over the left lung posteriorly a slight impairment of resonance. On auscultation numerous dry and some moist rales could be heard over the lower lobe of the left lung, behind and as far forward as the midaxillary region. (Fig. 2.) Nowhere else were any abnormal sounds to be detected. The heart was normal; the spleen not enlarged; temperature, 98°; pulse, 80. A few days later the patient had a severe stitch in the left side with a catch in breathing. When I saw her on October 27, there was no friction sound. The resonance over the left lower lobe was still a trifle impaired; the rales had disappeared.

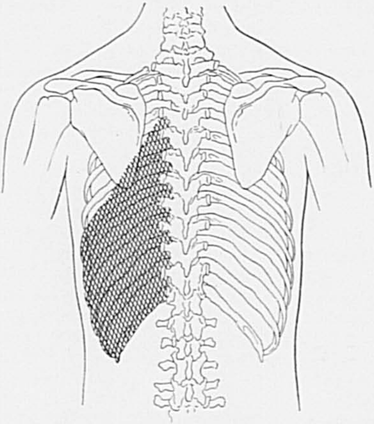

Fig. 2.—Sarah R. Impairment of resonance; bronchovesicular breathing; crackling rales; left lower lobe. Posterior view.

Case VII.—W. N., a colored lad, aged fourteen years, was sent to me by Dr. Watson, at the Polyclinic Hospital, on March 1 of this year, because, just as he was about to undergo an operation for enlarged tonsils, it was discovered that he had a temperature of 100°. The boy had had diphtheria at the age of seven and frequent attacks of tonsillitis. He did not complain of anything, but after we had detected the physical signs about to be described he admitted that for a week past he had had a slight cough, without expectoration, and some headache. I wish I could picture to you the surprise of my group of postgraduate students—and my own—when upon examination we found over the lower lobe of the left lung many small moist rales, bronchovesicular breathing, and impairment of the percussion note. (Fig. 3.) There was nothing

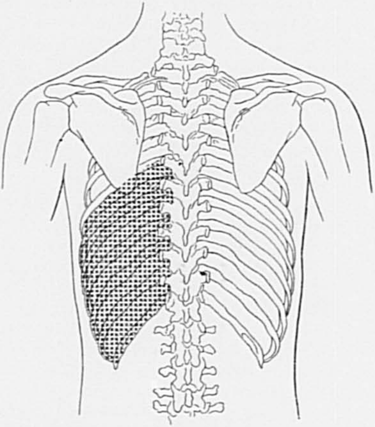

FIG. 3.—W. N. Impairment of resonance; bronchovesicular breathing; crackling rales; left lower lobe.

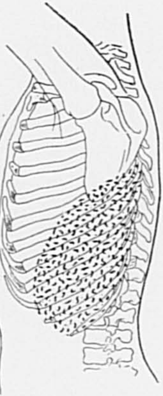

FIG. 4.—Dr. H. Impairment of resonance; bronchovesicular breathing; crackling rales; left lower lobe. Lateral view.

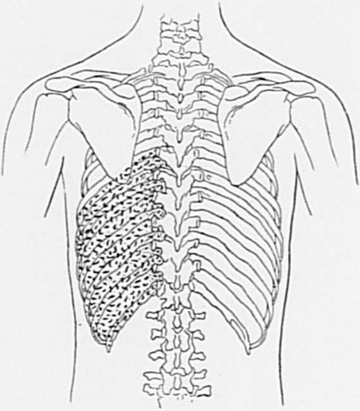

FIG. 5.—Same case as Fig. 4. Posterior view.

in the history, in the symptoms, or in the general impression that the boy made upon us to suggest any trouble in the lung. Had it not been for our practice of making a routine examination of the posterior bases of the lung the trouble would surely have been overlooked. It is not improbable that some of the ether pneumonias are preceded by just such a condition as we found in this boy. If that is true then it behooves us in every case before an operation to make a thorough examination of the back of the chest.

The blood count gave the following results:

Hemoglobin	88 per cent.
Red cells	5,320,000
Leukocytes	16,160
Differential count:	
Polymorphonuclear cells	57.4 per cent.
Mononuclear cells	7.0 "
Small lymphocytes	28.6 "
Transitional	5.4 "
Eosinophiles	1.6 "

At the end of three weeks from the time he was first seen the boy was entirely well.

I have cited the foregoing seven cases as typical of the disease. I have seen perhaps double that number.

PATHOLOGY. There have been no autopsies and no x-ray examinations, so that the actual pathological anatomy is an inference. The condition is not an ordinary bronchitis: (1) because it is strictly unilateral, while bronchitis is generally bilateral; and (2) because unlike bronchitis it is accompanied by an impairment of the percussion note and by breathing of a bronchovesicular character. Repeated examination in my cases has shown the physical signs to be quite stationary in the part first affected. Nor can the condition be a pleurisy: the signs remain unchanged, no fluid is demonstrable, the tactile fremitus is either not altered or increased, and the line of dulness follows the slant of the division between the lobes and has not the characteristic curve of an effusion. There is also practically no pain.

It is not a lobar pneumonia of the ordinary type, for it has not the acute, sharp onset, nor does it at any time give the impression that there is complete consolidation of the lung.

The view that we are dealing with a lobular or catarrhal pneumonia becoming confluent and assuming a lobar distribution seems to me to accord best with the conditions present. While lobular pneumonia in the vast majority of cases is a bilateral process, there is no inherent reason why it may not be unilateral. As the modes of infection in the two forms of pneumonia are not unlike; and as the infecting organism is generally the same, it is well within the law of probability that lobular pneumonia may be confined to the same parts of the lung as lobar pneumonia. Since we possess no satisfactory explanation for the lobar distribution in the one, none can be demanded for a similar distribution in the other.

In some experiments with the pneumococcus, Dr. Kolmer and myself, using the Lamar-Meltzer method, produced in dogs a pneumonia confined to a single lobe that to our minds had the characteristics of a spreading lobular rather than of a true lobar pneumonia, thus bearing a close analogy to the disease under discussion. At best, however, the pathological differences between lobular pneumonia and lobar pneumonia are neither great nor important.

It has not been possible to obtain sputum in many of the cases. When it was obtained it showed chiefly pneumococci. That the pneumococcus is capable of causing not only acute but also chronic pulmonary infections is demonstrated by the painstaking researches of Leutscher.

There is no evidence that the condition is an interstitial pneumonia of the type so ably described by Dr. Jacobi,[2] for it heals without residue—without evidence of retraction.

The disease would not impress anyone as a manifestation of influenza. The cases I have seen were scattered over a considerable period of time. They had none of the catarrhal symptoms nor the prostration so characteristic of influenza. Moreover, no other members of the patients' families were affected.

The chief symptoms are cough and a moderate fever, rarely above 101°, extending over a long period—from several weeks to three or four months. The cough may be harassing, but at times is slight, scarcely of enough moment to attract attention. There may be considerable expectoration or none; it may contain a little blood, but in my experience has never been rust-colored. The physical signs are entirely out of proportion to the symptoms. There is always some dulness, which is most easily detected by a careful comparison of the two sides, and usually extends to the angle or the middle of the scapula. Rales are, as a rule, abundant, and of the peculiar quality best described as consonating. They are moist rather than dry, though both types may be found. In the presence of minor subjective symptoms the listener will often be surprised when approaching the base of the chest to find his ear bombarded by a chorus of exquisitely crackling sounds. The rales are heard best in inspiration, and are often increased by coughing. In the majority of cases the disease involves the lower lobe of the left lung, but this may be a mere coincidence, as the number of cases is as yet too small for a definite conclusion. Girls predominated among my patients. As to age, the majority were between ten and twenty years—one was twenty-seven and one twenty-eight years. All the cases have ended in recovery without a vestige of the morbid process remaining.

[2] Arch. Ped., January, 1903.

On looking, not exhaustively, through the literature I find nothing directly bearing upon the subject. A number of authors in their chapters on bronchopneumonia state that at times the disease is most marked in one lobe, and when confluent may simulate lobar pneumonia. Such types are, however, described as exceptionally severe, with high fever, marked dyspnea, profound prostration, and great danger to life. They differ thus radically from the disease with which we are dealing. Beddard[3] speaks of a primary lobular pneumonia which is usually confluent and is diagnosticated as lobar. This, however, has a sudden onset, with high temperature and severe nervous symptoms; the duration is short, the pyrexia is quite regular and sustained, and it often ends by crisis. This, of course, does not correspond to our disease. West[4] described three types of bronchopneumonia, none of which is identical with the one under consideration; although he recognized a secondary bronchopneumonia, not, however, of lobar type, with a protracted course lasting three months or more. The nearest approach is found in Powell and Hartley's book.[5] They speak of a confluent form involving adjacent lobes of a large portion of the lung, sometimes a whole lobe, producing more or less dense consolidation. It may be associated with ordinary bronchitis of catarrhal origin, and very often occurs in the course of whooping cough. They have also met with it in certain cases of heart disease, and as a complication in pulmonary tuberculosis. In none of my cases was whooping cough, heart disease, or pulmonary tuberculosis a factor in the process; moreover, in severity and course the condition described by Powell and Hartley and the one here discussed are very different. Babcock[6] recognizes a confluent bronchopneumonia, but does not go into details regarding the symptoms or course. Wilson Fox does not mention it.

TREATMENT. In the treatment the measures that have seemed to me of some avail are counter-irritation to the chest, abundant feeding, and either a simple cough mixture with a small dose of an opiate, or one of the creosote preparations. Whenever the weather was favorable I advised that the patient be taken outdoors. A sojourn at the seashore in proper season is also beneficial.

The essential features of the condition I have described may be epitomized as follows:

1. The disease is a confluent lobular pneumonia of lobar distribution characterized by long duration, low fever, and the following physical signs: impairment of resonance, bronchovesicular breathing, and showers of crackling rales.
2. It must be looked upon as one of the causes of obscure long-continued fever.

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[3] Allbutt and Rolleston's System of Medicine, vol. v, London, 1909.

[4] Diseases of the Organs of Respiration.

[5] Diseases of the Lungs, 1911, fifth edition.

[6] Ibid., New York, 1907.

3. The disease always seems to end in complete recovery both symptomatically and anatomically.

4. In the beginning typhoid fever may be suspected, in the later stages tuberculosis.

5. The disease is, I believe, often overlooked, due to the fact that we seldom examine the lower posterior aspects of the chest in ambulatory cases, especially when the symptoms are rather trivial. I am quite sure the diagnosis of tuberculosis is often made in these cases of chronic cough, with low, continued fever; but if the chest is carefully examined, back and front, above and below, the peculiar, almost specific character of the disease will be discovered, and then the thought of tuberculosis will be no longer entertained.

THE TRUE VALUE OF OPERATION FOR CANCER.

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In order to estimate the true value of operation for cancer, we must know (1) the object of the operation, and (2) its result. It is often assumed that there is only one reason for such an operation—namely, the removal of all diseased tissue. This is the so-called radical operation. Its range has been extended to include not only the visibly diseased tissues, but also those tissues which may have in them seeds of disease for future development, and especially adjacent lymph glands and fascial planes. This side of the subject has been thoroughly studied and its technical applications to the various cancer sites of the body repeatedly described. In fact, it may justly be said to have dominated the surgical mind, determining the type of operation and classifying the results. Important as attempted removal of the cancerous and precancerous tissues may be, this is by no means the only reason for operation in cancer, and it is manifestly an absurdity to follow blindly methods of technique worked out for a radical operation when the possibility of radical operation does not exist. Rather should one shape the operation in each case to the objects to be gained by operation in that particular case.

Speaking broadly, there are four reasons for operation for cancer which may be present in the mind of patient or surgeon:

1. The complete removal of the cancer and cancer-bearing tissue—the so-called radical cure.

2. The establishment of a diagnosis.

3. The relief of some special symptom, such as hemorrhage or discharge from an ulcerating surface, or the closure of a sinus, or the division of a stricture, or the removal of a disfigurement.